

Still further, the Patent Office stated the first paragraph on page 2, lines 17-19 of the '257 application only mentions generic noises for model railroads, having neither specific reference to nor suggestion of sounds of a locomotive at various speeds and work loads. Applicants submit sounds of a locomotive at various speeds and work loads are inherent in the statement "recorded sounds simulate noises and are particularly suitable for applications requiring simulated noises, such as model railroads..." in view of the "NMRA DCC standards and recommended practices." (See the first paragraph of the SUMMARY OF THE INVENTION, page 2, lines 17-19 of the '257 application.)

Accordingly, Applicants submit the '257 application predates the SoundTraxx, and in view of the foregoing, SoundTraxx is not prior art under 35 U.S.C. §102(a) or 35 U.S.C. §103 because Applicants invention pre-dates the reference as sworn to in the attached affidavit.

**2) Applicants' invention is patentably distinct from SoundTraxx**

As to the rejection of Claims 1-4, 7-10, 12-16, 21-32, 37-45 and 49 under 35 U.S.C. §102(a) as being anticipated by SoundTraxx, Applicants submit the claims of the present invention are not anticipated by SoundTraxx for the reasons that follow. Notice to that effect is requested.

More specifically, Claim 1 defines a sound reproducing system for a model train traveling on a plurality of rails that uses an amplified digital control signal for propulsion and control. The system has a sound memory storing a plurality of sound effects at predetermined addresses; a controller connected to the sound memory; a sound memory; an integrated sound, motor and special effects controller and a digital packet. The controller connected to the sound memory recalls the sound effects of either one or a plurality of sound effects in a predetermined sequence or a random sequence. The sound memory contains multiple samples that emulate a locomotive at various speeds and work loads. The integrated sound, motor and special effects controller is controlled by a bipolar digital signal. The motor and special effects controller reproduce the stored sounds contained in the model train. The digital packet triggers a sound effect for automatic playback of a sound effect.

Claim 21 defines a sound reproducing system for a model train traveling on a plurality of rails that uses an amplified digital control signal for propulsion and control. The system has a sound unit, a memory within the sound unit, and a controller connected to the memory. The memory stores a plurality of sound effects at addresses wherein the sound effects contain multiple samples that emulate a train locomotive at various conditions. The memory has an analog wave form representing sound effects of a locomotive at

various conditions and work loads or a digital representation of the analog wave form that represents a plurality of sound effects of a locomotive at various conditions and work loads. The controller connected to the memory recalls at least one of the sound effects wherein the controller is controlled by a digital signal.

The Patent Office contends:

As per claims 1, 2, 4, 12, 16, 21-32, 40, 41, 44, 45 and 49, SoundTraxx DCC DSD includes:

digital control by a micro-controller, using bi-polar digital signal packets, of propulsion, sound effects, and special effects, for model trains having two or more rails (inherent in the "NMRA DCC standards and recommended practices"... DSD "integrates a full featured digital sound system, sophisticated lighting effects and a DCC decoder into a single, miniature, electronic module" which is inside your locomotive")

(See last paragraph on page 3 and first paragraph on page 4 of the Office Action dated April 30, 2001.)

Further, the Patent Office contends that SoundTraxx further includes, "sound memory storing a plurality of sound effect samples at predetermined addresses (listed steam and Diesel sound effects stored on inherent addressable chip(s))." (See the second paragraph on page 4 of the Office Action dated April 30, 2001.)

Contrary to the assertions made by the Patent Office, nowhere does SoundTraxx define "sound memory storing a plurality of sound effect samples at predetermined addresses." (Emphasis added.)

skilled in the art could supply the missing steps. *Structure Rubber Products Co. v. Park Rubber Co.*, 749 F.2d. 707, 716, 223 USPQ 1264, 1270 (Fed. Cir. 1984). Again, SoundTraxx fails to teach or suggest multiple sounds that emulate a model locomotive at various work loads or a sound memory storing a plurality of sound effect samples at predetermined addresses. Since SoundTraxx does not disclose the elements defined in independent Claims 1 or 21, Applicants submit that the rejection of independent Claims 1 and 21 under 35 U.S.C. §102(a) is improper and should be withdrawn. Notice to that effect is requested.

Further, as to the rejection of Claim 3 under 35 U.S.C. §102(a) as being anticipated by SoundTraxx, Applicants submit this rejection is improper and should be withdrawn for the reasons that follow.

More specifically, the Patent Office alleges, as per Claim 3, "DCC decoders inherently have a electrical power supply, full wave bridge rectifier producing a DC voltage from the bi-polar signal and supplying power to the sound reproducing system, and SoundTraxx DCC DSD 1996 has bi-polar signal packet input from 'track pick-ups'." Contrary to the assertion made by the Patent Office, Claim 3 does not claim a DCC device that uses one sound to reproduce the proper cadence in relationship to a type of locomotive at its track speed that utilizes the bi-polar signal being rectified for power. Rather, Claim 3 defines the use of a bipolar signal being rectified

SoundTraxx discloses sounds that run continuously or decreases dependent on the engine speed or sounds that may be manually controlled.

Further, "a plurality of sound effects" refers to the use of multiple samples such that the locomotive may bark loudly but may cut back to "light drifting throttle" when running light, drifting downhill, or coming to rest. To accomplish producing a plurality of sounds, a library of speeds that are recorded as different sounds, and a controller that may recognize changes in speed and direction are required. Speed and direction changes may be recognized by comparing a speed packet, or a lack of one, to an external sync mechanism. After comparison of the speed packet to an external sync mechanism, a new selection from the library of sounds may be made for playback. SoundTraxx merely teaches the selection of the proper cadence to the correct number of sequences a locomotive may have, but can not change the dynamics of the sound played back as required by Claims 1 and 21 of the present invention.

Under 35 U.S.C. §102, anticipation requires that a single reference discloses each and every step of Applicants' claimed invention. *Azko N.V. v. U.S. International Trade Commission*, 808 F.2d 1471, 1479, 1 USPQ 2d 1241, 1245 (Fed. Cir. 1986).

Moreover, anticipation is not shown even if the differences between the claims and the reference are "insubstantial" and one

into a DC power source used in combination with the elements of multiple samples, an electric motor, motor noise snubbing and special effects.

Still further, as to the rejection of Claim 7 under 35 U.S.C. §102(a) as being anticipated by SoundTraxx, Applicants submit this rejection is improper and should be withdrawn for the reasons that follow.

The Patent Office alleges that SoundTraxx

activates an appropriate air compressor and lighting or other onboard special effects from memories (implied by "activate various sound effects without interrupting or interfering with the other sounds") upon sensing a zero speed packet (due to complete stop) with inherently correct address (due to DCC packet structure): "The DSD will automatically activate the cylinder blowdown when the engine...comes to a complete stop" and e.g., "backup light is on".

(See first paragraph, page 5, of the Office Action dated June 18, 2001.) The phrase "activate various sound effects without interrupting or interfering with the other sounds" describes the polyphonic sound processor of SoundTraxx. The phrase further describes the ability to playback more than one sound, such as a bell, whistle, chuff, etc., by pressing the appropriate button on a hand controller. However, Claim 7 requires automatic sound effect upon sensing a packet.

More specifically, Claim 7 requires a sound reproducing system for a model train comprising, in part, a controller. The controller activates an automatic steam release sound effect upon

sensing a zero speed packet with the correct address header. Further, the controller activates an appropriate air compressor sound effect upon sensing the same zero speed packet and correct address header. Still further, the controller activates lighting effects or other onboard special effects after receiving and decoding the properly addressed digital control packet.

With respect to automatic sound effects, SoundTraxx merely discloses a DSD that will automatically activate the cylinder blowdown when the engine begins to more or comes to a complete stop. Nowhere does SoundTraxx disclose automatic sound effects upon sensing a packet as required by Claim 7.

Contrary to the assertion made by the Patent Office, SoundTraxx does not teach a means for automatic activation of a sound effect in relationship to a packet of information that is processed and a sound effect that is enabled as required by Claim 7.

### **3) Additional reasons for withdrawal of rejections**

As to the rejection of Claims 19, 46 and 50 under 35 U.S.C. §103(a) as being unpatentable over SoundTraxx as applied to Claim 1 in view of Richard H. Lord's NMRA Digital Command System Sound Unit circuit diagram with ISD1012A/1016A/1020A Single-Chip Voice Record/Playback Device describing a device publicly displayed at the NMRA national convention at Valley Forge, PA in August

1993(hereinafter "LORD"), Applicants submit the claims are not obvious in view of SoundTraxx or LORD for the reasons that follow.

SoundTraxx, does not use a microphone to record additional analog characteristic sounds. According to the Patent Office, LORD's recorded horn, bell, and diesel sound effects on the "ISD 1086AP chip" were recorded by means of a microphone. Applicants assume the Patent Office is referring to "ISD 1016AP chip" as shown in the diagram. The Patent Office contends, "it would have been obvious for an artisan at the time of the invention to thus record additional sound effects to enhance one's model railroad system's realism."

Applicants submit Claims 19, 46 and 50 are not obvious in view of LORD. More specifically, Claims 19 and 46 require a microphone to record sound. Claim 50 requires the stored sound effects to be analog.

LORD discloses an ISD chip having an input that is configured to accept a microphone. Nowhere does SoundTraxx teach a means to accept a microphone. In fact, SoundTraxx, as disclosed in the October 1996 publication, is not configured to accept a microphone. Accordingly, the combination of LORD and SoundTraxx, in regards to use of a microphone, is not possible. Contrary to the assertions made by the Patent Office, it would not have been obvious to one having ordinary skill in the art to record additional analog sound effects by use of a microphone.



Further, the Patent Office has provided absolutely no teaching whatsoever as to why one having ordinary skill in the art would use a microphone with SoundTraxx to record sound effects as was applied in the Office Action in the rejection of Claims 19, 46 and 50 under 35 U.S.C. §103(a).

It is submitted that the question under §103 is whether the totality of the art would collectively suggest the claimed invention to one of ordinary skill in this art. *In re Simon*, 461 F. 2d 1387, 174 USPQ 114 (CCPA 1972).

That elements, even distinguishing elements, are disclosed in the art is alone insufficient. It is common to find elements somewhere in the art. Moreover, most, if not all, elements perform their ordained and expected functions. The test is whether the invention as a whole, in light of all the teachings of the references in their entireties, would have been obvious to one of ordinary skill in the art at the time the invention was made. *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983).

Moreover, it is insufficient that the art disclosed components of Applicant's assembly, either separately or used in other combinations. A teaching, suggestion, or incentive must exist to make the combination made by the inventor. *Interconnect Planning Corp. v. Feil*, 774 F. 2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1988).

With the analysis of the deficiencies of SoundTraxx and LORD in mind, as enumerated above, no reason or suggestion in the evidence of record exists why one of ordinary skill in the art would have been led to produce the claimed invention. Therefore, *prima facie* obviousness has not been established by the Patent Office as required under 35 U.S.C. §103.

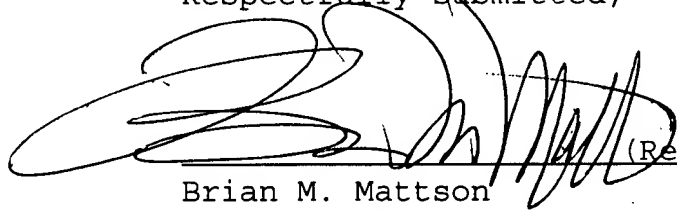
Applicants further submit that each of the remaining rejections, namely the rejection of Claims 5, 6, 11, 17, 33-36 and 48 under 35 U.S.C. §103(a) as being unpatentable over SoundTraxx; the rejection of Claims 6, 11, 17, 18, 20, 34-36 and 47 under 35 U.S.C. § 103(a) as being unpatentable over SoundTraxx as applied to Claim 1; as well as the rejection of Claims 19, 46 and 50 under 35 U.S.C. 103(a) as being unpatentable over SoundTraxx as applied to Claim 1 in view of LORD are improper for the same reasons set forth above with respect to independent Claims 1 and 21.

Further, Claims 2-20 depend from Claim 1, and Claims 22-50 depend from Claim 21. These claims are also believed allowable over the references of record for the same reasons set forth with respect to their parent claims since each sets forth additional structural and novel elements of Applicants' system. Notice to that effect is requested.

In view of the foregoing remarks, Applicants respectfully submit that all of the claims in the application are in allowable form and that the application is in condition for allowance. If,

however, any outstanding issues remain, Applicants urge the Patent Office to telephone Applicants' attorney so that the same may be resolved and the application expedited to issue. Applicants request the Patent Office to indicate all claims as allowable and to pass the application to issue.

Respectfully submitted,




(Reg. No. 35,018)

Brian M. Mattson  
Patents+TMS  
A Professional Corporation  
1914 North Milwaukee Avenue  
Chicago, IL 60647  
773/772-6009  
Attorney for Applicants

**CERTIFICATE OF MAILING**

I hereby certify that this **Amendment After Final** is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to the Asst. Commissioner for Patents, Box Reissue, Washington, D.C. 20231 on March 28, 2002.



Brian M. Mattson